

Development and Operation of a Modern Informal Portal for the ISS Medical Groups

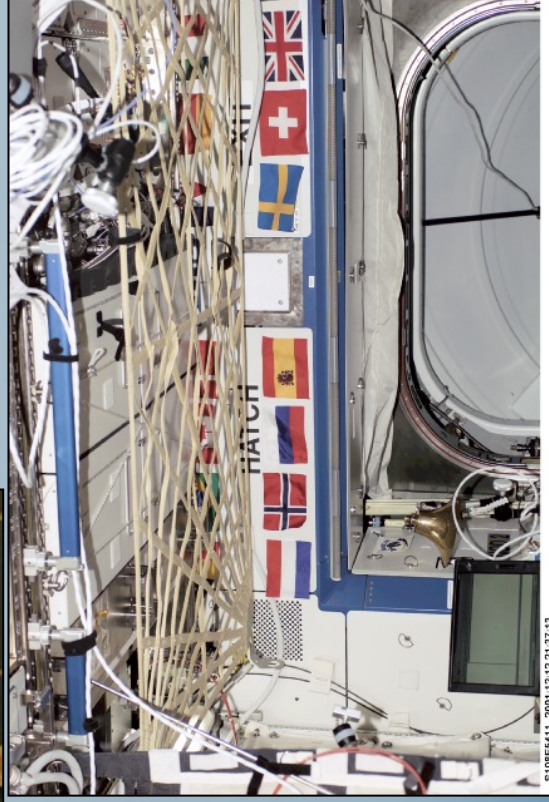
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AsMA- 2007 , New Orleans, USA

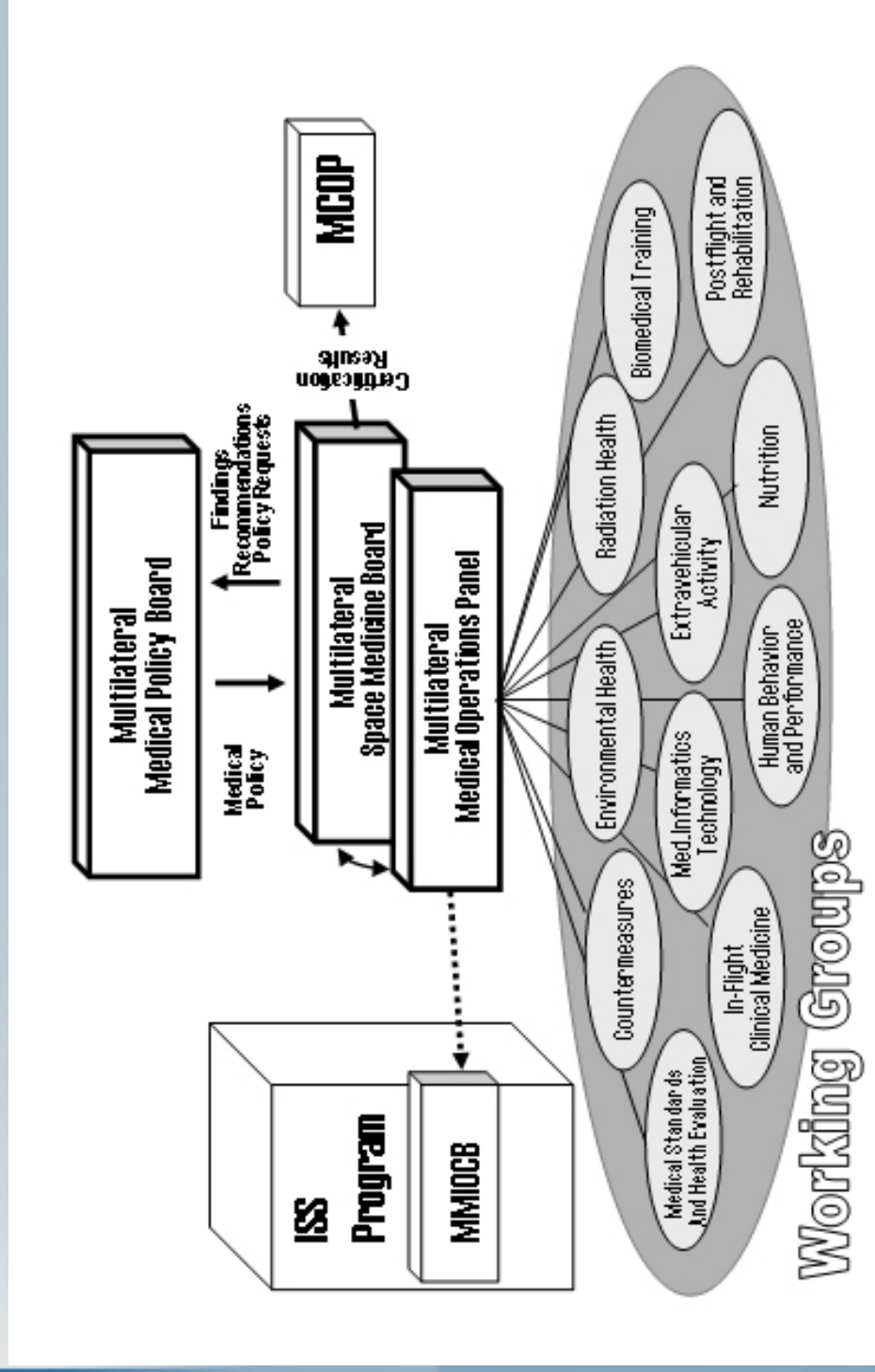
Presentation Overview

- **Presentation Goals**
- **Presentation Outline**
 - The ISS Medical Management Structure
 - Data Exchange and Coordination Challenges
 - Solution: Secure Workspace for non-real-time collaboration
 - Implementation Challenges and Highlights
 - Post Implementation Use and Performance
 - Conclusions

ISS is a Major International Endeavor



ISS Medical Management Structure



Joint ISS Operations:

- Multilateral consideration of Partner-initiated input into ISS medical operations
- Development of multilateral consensus medical position on programmatic issues (e.g., on planning of missions > 180 days)
- Development of multilateral inputs into ISS medical or medically relevant documentation, and multilateral document control
- Provision of medical input into the ISS Program on a regular basis

International Program Challenges

- Expected to operate by consensus
- Expected to be efficient with only limited real-time interactions
- Different medical cultures and standards of care
- Diverse medical backgrounds, training, and experience
- Different expectations about the ISS medical system
- Different management structures
- Variable funding levels

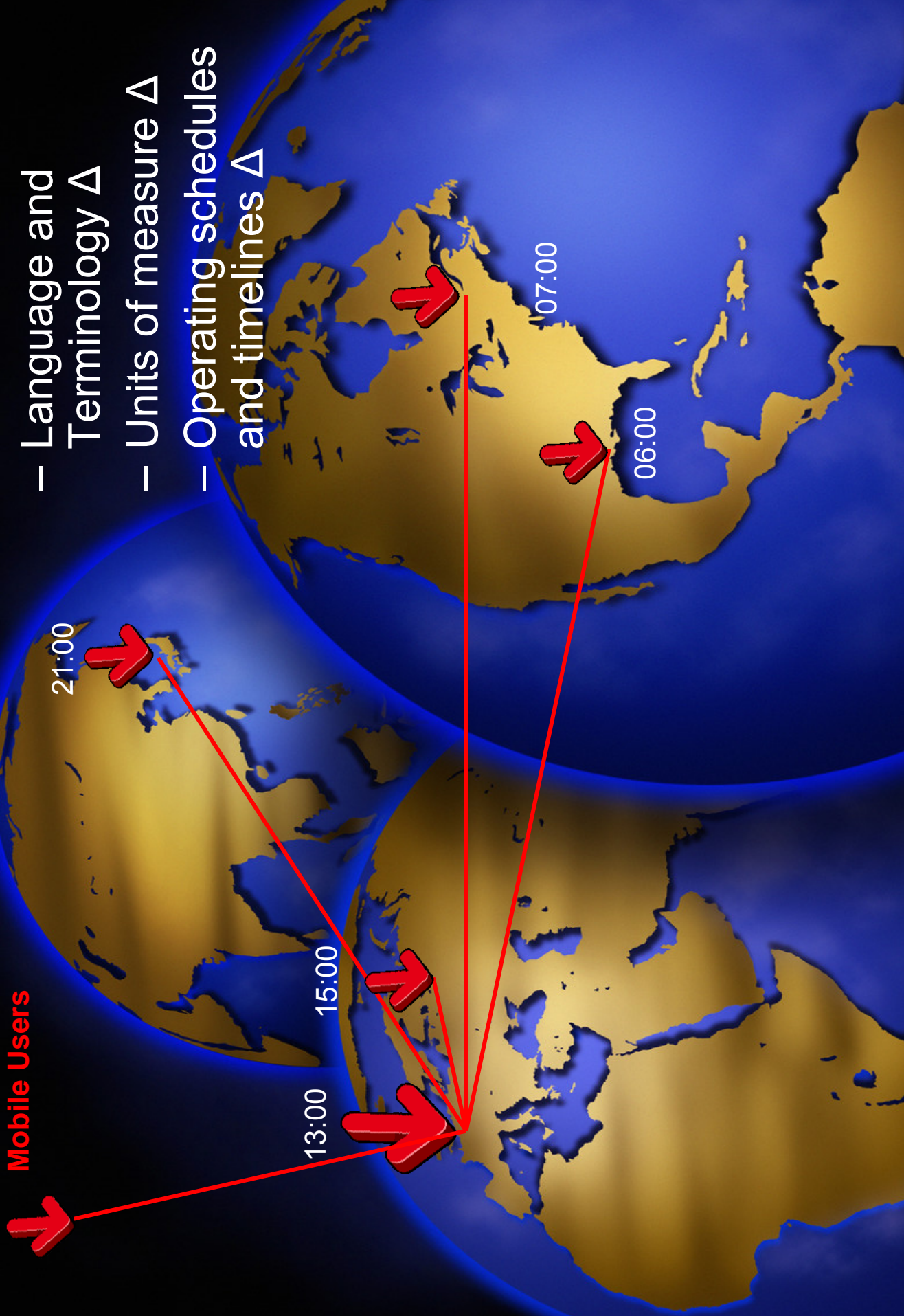
- Time Δ

- Language and Terminology Δ

- Units of measure Δ

- Operating schedules and timelines Δ

Mobile Users

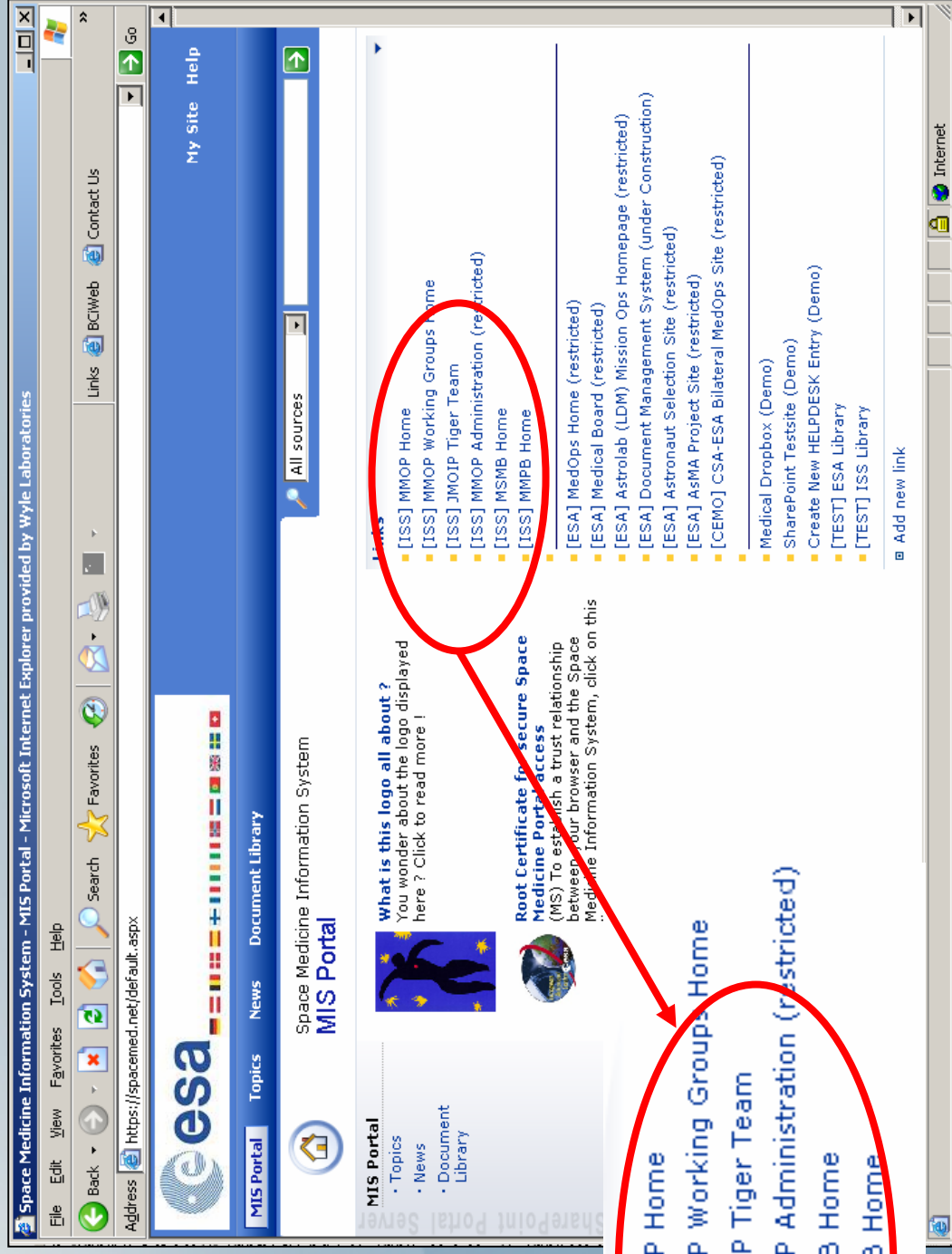


Portal Purpose

To promote efficient collaboration in the area of ISS crew health and medical matters by enabling:

- information exchange
- document sharing, review, processing, electronic approval / signature
- event planning and preparation
- electronic archival
- electronic reference database
- other collaborative activities pertaining to the medical support of the ISS Program

ISS Medical Portal Snapshot





Implementation

- Technical management and maintenance is done by the ESA and contractor personnel in Cologne, Germany
- Content management is the responsibility of the international program support personnel in Houston, TX
- Only MMOP members and administrative have capabilities to modify the website
- MMOP working group sites are established by the server administrators but managed by the WG
- Alert Functions are used increasingly to reduce email traffic and optimize distribution of information

Document Library

Home Documents and Lists Create Site Settings Help

MMOP

Shared Documents

Up to Space Medicine Information System

Select a View

All Documents

Explorer View

Approve/reject Items

My submissions

Actions

☐ Add to My Links

☐ Alert me

☐ Export to spreadsheet

☐ Modify settings and columns

Share a document with the team by adding it to this document library.

Folder

New Document | Upload Document | New Folder | Filter | Edit in Datasheet

Type Name	Checked Out To
Documents in Work	
MMOP Top Level Documents	
Presentations	
Related Documentation	
Working Group Documents	


- All MMOP relevant documentation (in progress)
- All Medical Operations documentation (in planning)
- All MedOps Training Documentation (in planning)
- Space Medicine Reference Documentation (in planning)


Alert Functions

MMOP

My Alerts on this Site

Use this page to manage the list of libraries, files, lists, and items for which you receive alerts. Click the name of an alert to edit its settings. [More information on alerts.](#)

 Add Alert

 Delete Selected Alerts

Name of List: Item

Frequency: Immediate

☐ SMOT Minutes: All items

☐ Events Planner: All items

Send Alerts About

Added items

All changes

- Email alerts can be sent when items have been modified or added to the website
 - Real-time alerts immediately following changes
 - Daily alert summary
 - Weekly alert summary
- Alerts must be set up by each individual and are not automatically set up by the administrator of the website
 - Each individual/user may choose which items generate alerts (i.e. MMOP agenda, MMOP action tracker, etc.)
 - Alerts can be changed at any time for any section of the website by the user

Accessibility

- **All Participants**
 - View posted material from the MMOP workspace
 - Browse through the MMOP portal

MMOP

Home Documents and Lists Create Site Settings Help



Manage Users

Use this page to add new users, remove users from all site groups, or assign users to site groups. The following users have been added to the list.

 Add Users

 Remove Selected Users


 Edit Site Groups of Selected Users

<input type="checkbox"/> Select All	Users	User Name	Site Groups
<input type="checkbox"/>	Ashot Sargsyan	MIS\ashot sargsyan	MMOP Support
<input type="checkbox"/>	Barbara Ackles	MIS\barbara ackles	MMOP Support
<input type="checkbox"/>	Beate Fischer	MIS\beate fischer	MMOP Support
<input type="checkbox"/>	Casey Pruett	MIS\casey pruet	MMOP Support
<input type="checkbox"/>	Cheri Armstrong	MIS\cheri armstrong	MMOP Support
<input type="checkbox"/>	Chris Smith	MIS\chris smith	MMOP Support
<input type="checkbox"/>	Delhiem Afchine	MIS\delhiem afchine	MMOP Support
<input type="checkbox"/>	Filippo Castrucci	MIS\filippo castrucci	MMOP Members
<input type="checkbox"/>	Frits de Jong	MIS\frits de jong	MMOP GRC Admin, MMOP Support
<input type="checkbox"/>	Gary Gray	MIS\gary gray	MMOP Members
<input type="checkbox"/>	Genie Bopp	MIS\genie bopp	Contributor
<input type="checkbox"/>	Jean Marc Comtois	MIS\jean marc comtois	MMOP Members
<input type="checkbox"/>	Jeannette Darcy	MIS\jeannette darcy	MMOP Working Groups
<input type="checkbox"/>	Kathy Holmes	MIS\kathy holmes	MMOP Support
<input type="checkbox"/>	Kathy Johnson	MIS\kathy johnson	MMOP Working Groups

- **MMOP Support Capabilities** (+ above accessibility)
 - Add and edit postings
 - Add/edit information regarding personal information
- **MMOP Administrative Capabilities** (+ above accessibility)
 - Delete postings
- **MMOP Member Capabilities** (+ above accessibility)
 - Approve/reject postings

Collaborative Tools (1)

Home Help Up to MMOP



Change Request Processing for Generic Ground Rules & Constraints

[Home](#) [GGRC Documents](#) [Modify This Workspace](#)

Information

Dear MMOP Members,

Please see below the current CRs, that were sent to us by the ExPCP for review and disposition.
Please review them and provide your **Agency disposition** and, where appropriate, add notes.. Due date is **August 17, 2004**, for discussion during the next MMOP Videoconference.

Thank you,

Frits de Jong

Information - Use this list to insert custom text into your meeting.

Aug. 5, 2004

List and Status of Change Requests

New Item Filter	CR ID	Doc Reference	NASA Disposition	FSA Disposition	JAXA Disposition	ESA Disposition	CSA Disposition
MMOP Disposition : No Disposition (3)							
	#W22	Chapter 3.7.6	No Disposition	No Disposition	No Disposition	APPROVED	No Disposition
	#W24	Chapter 3.8.2	No Disposition	No Disposition	No Disposition	No Disposition	No Disposition
	#W25	Chapter 3.8.2	No Disposition	No Disposition	No Disposition	No Disposition	No Disposition

- **Document Work-Spaces**
 - Ground Rules & Constraints (operational)
 - MED, MORD, JMOIP (in preparation)

Collaborative Tools (2)

Home Help
Up to MMOP

MMOP Meeting Workspace

Subject: MMOP #59
Date: 07.06.2004 (01:00) - 10.06.2004 (10:00) >>
Location: Houston, USRA building
[Go to Events](#)

[Home](#)
[Action Tracker](#)
[Pictures](#)

Objectives

- 1. Final MORD rev C, vers. 5 review
- 2. Visiting Vehicle Scheduling Constraints
- 3. Extended Mission Duration
- ▣ Add new item

Attendees

Name	Edit Response
Völker Damann	None
Manage attendees	

Select a date from the list below:

16.06.2003
16.06.2003
16.09.2003
01.12.2003
27.01.2004
17.02.2004
16.03.2004
27.04.2004
18.05.2004
07.06.2004
20.07.2004
17.08.2004
21.09.2004
19.10.2004
15.11.2004

[<](#) Previous Next [>](#)

Agenda

Subject	Owner	Time
Final Agenda MMOP #59 face-to-face		
Add new item		

[Modify This Workspace](#)

Document Library

New Document | Upload Document | New Folder | Filter |

Type Name	Modified By
Day 1	Völker Damann
Day 2	Völker Damann
Day 3	Völker Damann
Day 4	Völker Damann
Minutes, Motions, Actions	Völker Damann

Decisions / Minutes

Decision	Contact	Status
Motions & Actions		Final
Draft Minutes Rev 1 MMOP #59		Final
Draft Minutes MMOP #59		Proposed
FINAL Minutes		Final
Add new item		

- **Meeting Work-Spaces**
 - MMOP Meetings and Telecons (operational)
 - WG sites (operational)

Collaborative Tools (3)

Home

Help

Up to MMOP

MMOP Meeting Workspace

Subject: MMOP #59

Date: 07.06.2004 (01:00) - 10.06.2004 (10:00) (GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna <<

Location: Houston, USRA building

Go to Events

Home

Action Tracker

Pictures

MMOP Action Tracker

New Item

Filter

All Meetings

Edit	Item	Category	Title	Start Date	Due Date	Status	Actionee
	5905.0	(021) Flight Rules	Review "Medical Authority" Flight Rule Vol. C	10.06.2004	20.07.2004	OPEN	
	5906.0	(021) Flight Rules	Review "Medical Authority" Flight Rule Vol. B	10.06.2004	20.07.2004	OPEN	
	5907.0	(021) Flight Rules	Review O2 Flight Rule	10.06.2004	20.07.2004	OPEN	
	5909.0	(022) Ground Rules	Review new GGR&C Part 1, Section 3.2.4 wording	10.06.2004	20.07.2004	OPEN	
	5910.0	(130) Radiation Health	CSA Biodosimetry Proposal	10.06.2004		OPEN	
	5911.0	(160) Countermeasures	Discussion and Implementation of Penguin suit	10.06.2004	15.11.2004	OPEN	

Select a date from the list below:

16.06.2003

16.06.2003

16.09.2003

01.12.2003

27.01.2004

17.02.2004

16.03.2004

27.04.2004

18.05.2004

07.06.2004

20.07.2004

17.08.2004

21.09.2004

19.10.2004

15.11.2004

Previous

Next

Modify This Workspace

- Meeting Work-Spaces
 - MMOP Action Tracker (operational)
 - Archives, Document Libraries (in preparation)

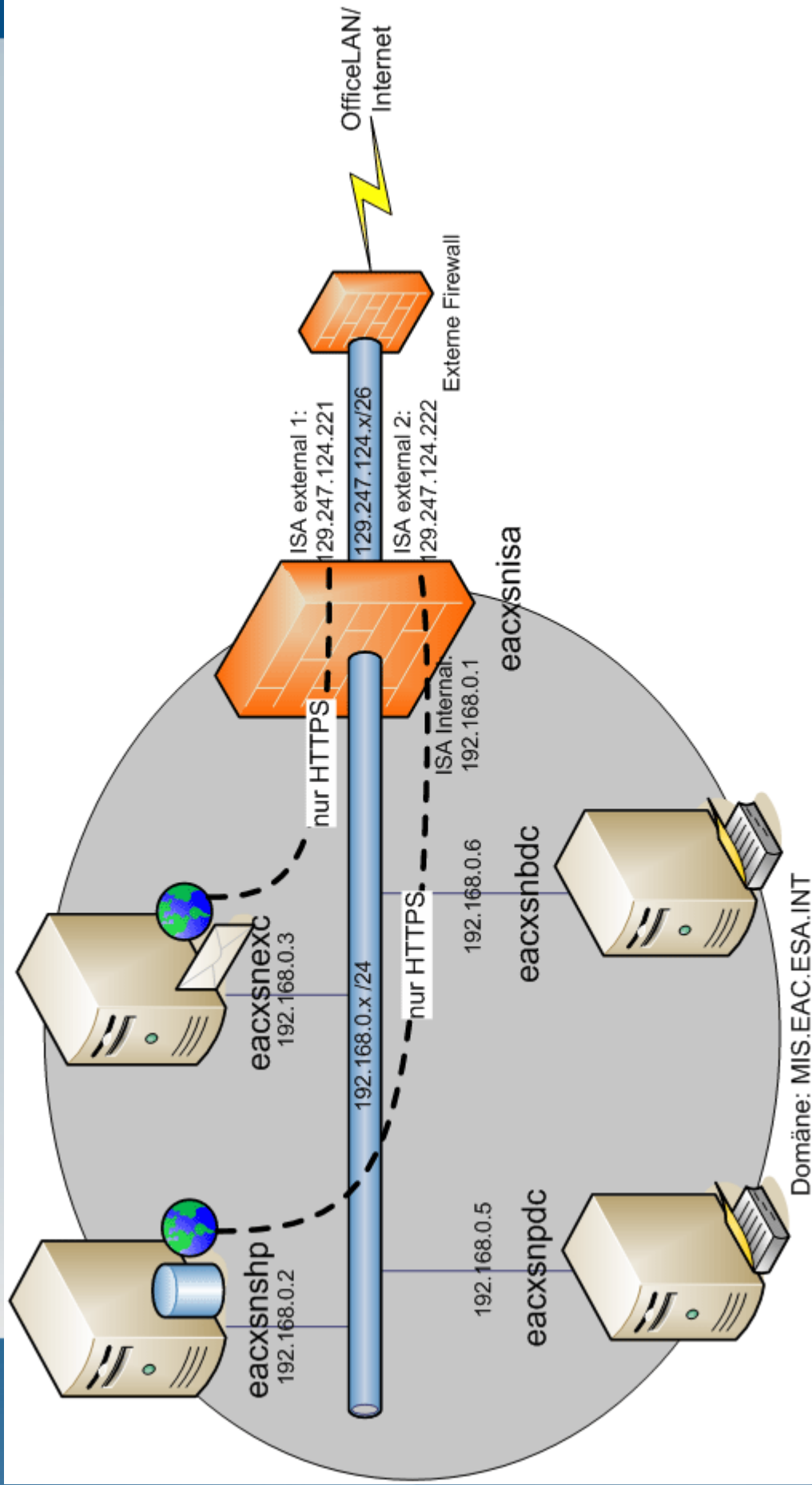
Collaborative Tools (4)

The screenshot shows the MMOP website interface. The top navigation bar includes links for Home, Documents and Lists, Create, Site Settings, and Help. Below this, the main content area displays 'MMOP Working Groups' and 'Home' as the main page for MMOP WGs. A sidebar on the right contains links for Documents, Pictures, Lists, Discussions, and Surveys. The 'SMOT Minutes' section is highlighted, showing a table of minutes for the years 2004, 2003, and 2002. The table has columns for 'Type Name' and 'Modified'.

Type Name	Modified
2004	02.08.2004 16:31
2003	02.08.2004 16:32
2002	02.08.2004 16:34

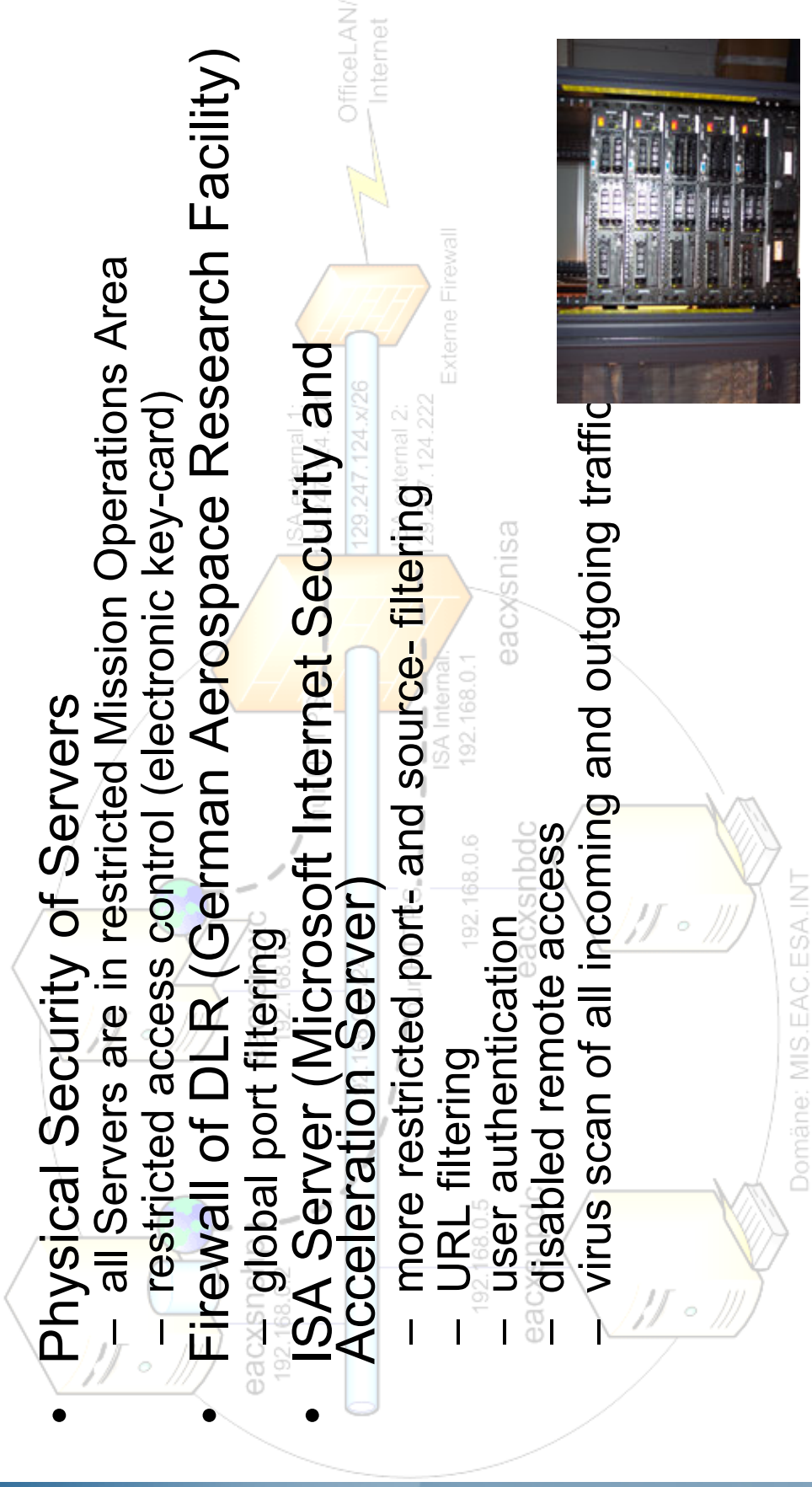
- **Working Groups**
 - WG and MMOP members access and browse the workspace
 - Limited access to posting material on workspace
 - Contain agenda, minutes, splinter topics, presentations, calendar
- **SMOT**
 - Limited access to portal
 - Limited access to posting material
 - Will contain agenda, minutes, readiness review reminders, and presentations

Security Overview



Security Details

- Physical Security of Servers
 - all Servers are in restricted Mission Operations Area
 - restricted access control (electronic key-card)
- Firewall of DLR (German Aerospace Research Facility)
- ISA Server (Microsoft Internet Security and Acceleration Server)
 - more restricted port- and source- filtering
 - URL filtering
 - user authentication
 - disabled remote access
 - virus scan of all incoming and outgoing traffic



Security Details-2

- =User Authentication
 - No Anonymous Login Allowed
 - Individual User IDs and Passwords
 - Centrally administrated
 - User-level access rights
- Secure Internet Protocol
 - https 128-bit SSL-encryption (with Root Certificate)
 - no unencrypted access possible (redirect to https)
- SharePoint Security Features
 - Site User Groups
 - Item-Level Permissions
 - Moderated Upload/Modifications



Current Capability



- Repository of all MMOP relevant information
- Limited Document Management System
- Approval/Disapproval of minutes via website
- Change Request (CR) processing via website
- Reduced email traffic
- Similar approach for MSMB, MMPB

Future Possibilities



- Enhanced scheduling via Exchange Server
- Full Document Management System
- Links/Embedding to/of external websites
- FTP capability (under evaluation)

Conclusion

Thank you!

E-mail your questions and suggestions to: